

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 09/527,584

1. (ORIGINAL) A method of managing a logical allocation of resources between connection-oriented traffic and connectionless traffic being routed through a shared physical network element of a communications network, the method comprising the steps of:
 - a) determining a resource requirement of the connection-oriented traffic;
 - b) dynamically adjusting a respective connectionless traffic metric based on the determined resource requirement of the connection-oriented traffic.
2. (ORIGINAL) A method as claimed in claim 1, wherein the connection-oriented traffic comprises multi-protocol label switched (MPLS) traffic.
3. (ORIGINAL) A method as claimed in claim 2, wherein the step of determining the resource requirement of the connection-oriented traffic comprises the steps of:
 - a) receiving MPLS reservation requests in respect of the shared physical network element; and
 - b) dynamically adjusting a total amount of resources required to satisfy the received MPLS reservation requests.
4. (ORIGINAL) A method as claimed in claim 1, wherein the connectionless traffic comprises internet protocol (IP) packet traffic.
5. (ORIGINAL) A method as claimed in claim 4, wherein routing of the connectionless traffic is controlled using an interior gateway protocol (IGP) routing system adapted

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 09/527,584

to calculate a shortest path route of the connectionless traffic through the communications network, the shortest path routing being based on a respective metric of each physical network element forming the network.

6. (ORIGINAL) A method as claimed in claim 5, wherein the step of dynamically adjusting the respective metric comprises the steps of:
 - a) increasing the respective metric as the determined resource requirement of the connection-oriented traffic increases; and
 - b) decreasing the respective metric as the determined resource requirement of the connection-oriented traffic decreases.
7. (ORIGINAL) A method as claimed in claim 5, wherein the respective metric is a link distance vector associated with a respective link connected to a node of the communications network.
8. (ORIGINAL) A method as claimed in claim 7, wherein the step of dynamically adjusting the respective metric comprises the steps of:
 - a) determining an updated value of the link distance vector; and
 - b) updating a mapping table maintained by the node with the updated value of the link distance vector.
9. (ORIGINAL) A method as claimed in claim 8, wherein the step of determining an updated value of the link distance vector comprises a step of querying a resource allocation table comprising a plurality of characteristic resource

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 09/527,584

allocation values and a respective link distance vector value corresponding to each characteristic resource allocation value.

10. (ORIGINAL) A method as claimed in claim 9, wherein the step of querying the resource allocation table comprises the steps of:

- a) identifying the characteristic resource allocation value which most closely matches the determined resource requirement of the connection-oriented traffic; and
- b) selecting the corresponding link distance vector as the updated link cost factor.

11. (ORIGINAL) A method as claimed in claim 5, wherein the respective metric is a link cost factor associated with a respective link connected to a node of the communications network.

12. (CURRENTLY AMENDED) A method as claimed in claim 10, wherein the step of dynamically adjusting the respective metric comprises the steps of:

- a) determining an updated value of the link cost factor;
- b) updating a PATH table maintained by the node with the updated link cost factor value; and
- c) propagating a link state packet (LSP) containing the updated link cost factor value to neighboring nodes within the network.

13. (ORIGINAL) A method as claimed in claim 12, wherein the step of determining an updated value of the link cost factor comprises a step of querying a resource allocation

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 09/527,584

table comprising a plurality of characteristic resource allocation values and a respective link cost factor value corresponding to each characteristic resource allocation value.

14. (ORIGINAL) A method as claimed in claim 13, wherein the step of querying the resource allocation table comprises the steps of:

- identifying the characteristic resource allocation value which most closely matches the determined resource requirement of the connection-oriented traffic; and
- selecting the corresponding link cost factor as the updated link cost factor.

15. (ORIGINAL) A shared network element operative within a communications network capable of end-to-end transport of connection-oriented traffic and connectionless traffic through the shared network element, the shared network element comprising:

- means for determining a resource requirement of the connection-oriented traffic; and
- means for dynamically adjusting a respective connectionless traffic metric based on the determined resource requirement of the connection-oriented traffic.

16. (ORIGINAL) A shared network element as claimed in claim 15, wherein the connection-oriented traffic comprises multi-protocol label switched (MPLS) traffic.

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 09/527,584

17. (ORIGINAL) A shared network element as claimed in claim 16, wherein the means for determining the resource requirement of the connection-oriented traffic comprises:

- means for receiving MPLS reservation requests in respect of the shared physical network element; and
- means for dynamically adjusting a total amount of resources required to satisfy the received MPLS reservation requests.

18. (ORIGINAL) A shared network element as claimed in claim 15, wherein the connectionless traffic comprises internet protocol (IP) packet traffic.

19. (ORIGINAL) A shared network element as claimed in claim 18, wherein routing of the connectionless traffic is controlled using an interior gateway protocol (IGP) routing system adapted to calculate a shortest path route of the connectionless traffic through the communications network, the shortest path routing being based on a respective metric of each physical network element forming the network.

20. (ORIGINAL) A shared network element as claimed in claim 19, wherein the means for dynamically adjusting the respective metric comprises means adapted to:

- increase the respective metric as the determined resource requirement of the connection-oriented traffic increases; and
- decrease the respective metric as the determined resource requirement of the connection-oriented traffic decreases.

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 09/527,584

21. (ORIGINAL) A shared network element as claimed in claim 19, wherein the respective metric is a link distance vector associated with a respective link connected to a node of the communications network.

22. (ORIGINAL) A shared network element as claimed in claim 21, wherein the means for dynamically adjusting the respective metric comprises:

- means for determining an updated value of the link distance vector; and
- means for updating a mapping table maintained by the shared network element with the updated value of the link distance vector.

23. (ORIGINAL) A shared network element as claimed in claim 22, wherein the means for determining an updated value of the link distance vector comprises a resource allocation table comprising a plurality of characteristic resource allocation values and a respective link distance vector value corresponding to each characteristic resource allocation value.

24. (ORIGINAL) A shared network element as claimed in claim 23, further comprising:

- means for identifying the characteristic resource allocation value which most closely matches the determined resource requirement of the connection-oriented traffic; and
- means for selecting the corresponding link distance vector as the updated link cost factor.

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 09/527,584

25. A shared network element as claimed in claim 19, wherein the respective metric is a link cost factor associated with a respective link connected to a node of the communications network.

26. (CURRENTLY AMENDED) A shared network element as claimed in claim 25, wherein the means for dynamically adjusting the respective metric comprises:

- means for determining an updated value of the link cost factor;
- means for updating a PATH table maintained by the node with the updated link cost factor value; and
- means for propagating a link state packet ~~(LSP)~~ containing the updated link cost factor value to neighboring nodes within the network.

27. (ORIGINAL) A shared network element as claimed in claim 26, wherein the means for determining an updated value of the link cost factor comprises a resource allocation table comprising a plurality of characteristic resource allocation values and a respective link cost factor value corresponding to each characteristic resource allocation value.

28. (ORIGINAL) A shared network element as claimed in claim 27, further comprising:

- means for identifying the characteristic resource allocation value which most closely matches the determined resource requirement of the connection-oriented traffic; and
- means for selecting the corresponding link cost factor as the updated link cost factor.